FIG. 1

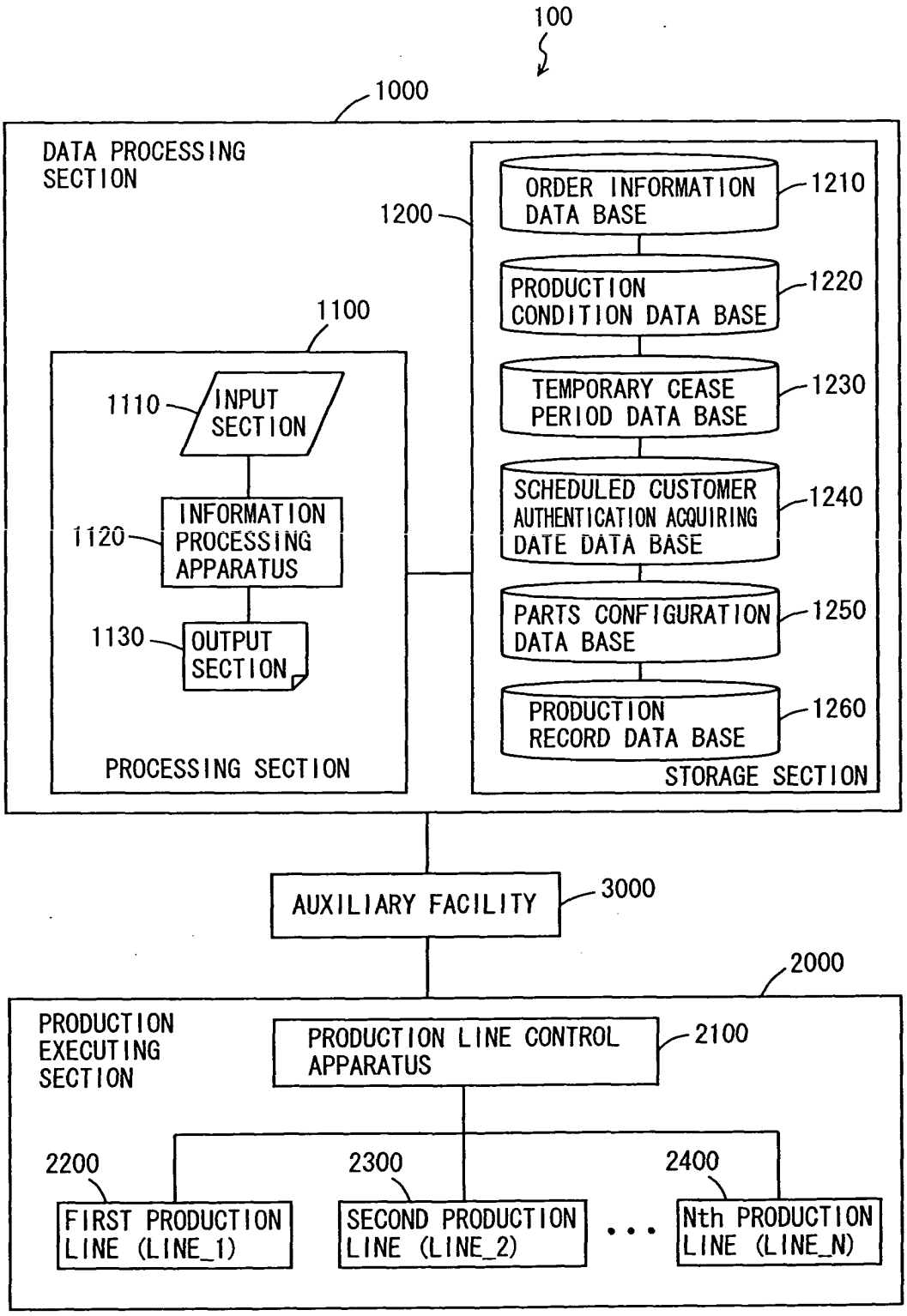

100
1000
DATA PROCESSING SECTION
1200
ORDER INFORMATION DATA BASE
1210
PRODUCTION CONDITION DATA BASE
1220
TEMPORARY CEASE PERIOD DATA BASE
1230
SCHEDULED CUSTOMER AUTHENTICATION ACQUIRING DATE DATA BASE
1240
PARTS CONFIGURATION DATA BASE
1250
PRODUCTION RECORD DATA BASE
1260
STORAGE SECTION
1100
1110
INPUT SECTION
1120
INFORMATION PROCESSING APPARATUS
1130
OUTPUT SECTION
PROCESSING SECTION
AUXILIARY FACILITY
3000
2000
PRODUCTION EXECUTING SECTION
PRODUCTION LINE CONTROL APPARATUS
2100
2200
2300
2400
FIRST PRODUCTION LINE (LINE_1)
SECOND PRODUCTION LINE (LINE_2)
Nth PRODUCTION LINE (LINE_N)

FIG. 2

ORDER NUMBER	CUSTOMER CODE	ORDERED MODEL NAME	ORDER VOLUME	DELIVERY TIME
SR001	CU_A	M34100	3,000	2002/10/12
SR002	CU_B	M34200	2,000	2002/10/13
SR003	CU_C	M34100	3,000	2002/10/13
SR004	CU_A	M34100	4,700	2002/10/14
SR005	CU_D	M34100	4,000	2002/10/18
SR006	CU_B	M34200	1,000	2002/10/20
:				

FIG. 3

PRODUCTION TYPE NAME	PRODUCTION LINE	PRODUCTION CAPACITY (PIECES/DAY)	PRODUCT YIELD (%)	PRODUCTION LEAD TIME (DAYS)
M34100_D1	LINE_1	2,000	90	5
M34100_D2	LINE_2	3,000	90	5
M34200_D1	LINE_1	2,000	95	6
M34200_D3	LINE_3	1,000	95	6
:				

FIG. 4

PRODUCTION LINE	CEASE START	CEASE END
LINE_1	2002/10/14	2002/10/17
:		

FIG. 5

CUSTOMER CODE	PRODUCTION TYPE NAME	SCHEDULED AUTHENTICATION ACQUIRING COMPLETION DATA	AUTHENTICATED LINE
CU_D	M34100_D2	2002/10/12	LINE_2

FIG. 6

ORDERED MODEL NAME	USAGE PRIORITY	PRODUCTION TYPE NAME
M34100	01	M34100_D1
M34100	02	M34100_D2
M34200	01	M34100_D1
M34200	02	M34100_D3
:		

FIG. 7

PRODUCTION TYPE NAME	PRODUCTION NUMBER	STEP IN PROCESS	REMAINING DAYS (DAYS)	VOLUME IN PROCESS (PIECES)	PRODUCT YIELD (%)	CONVERSION-ESTIMATED NUMBER OF GOOD PRODUCTS (PIECES)	SCHEDULED COMPLETION DATE
M34100_D1	LOT_01	A30	3	1,800	90	1,620	2002/10/12
M34100_D1	LOT_02	A20	4	2,000	90	1,800	2002/10/13
M34100_D1	LOT_03	A40	2	2,715	95	2,580	2002/10/11
:							

FIG. 8

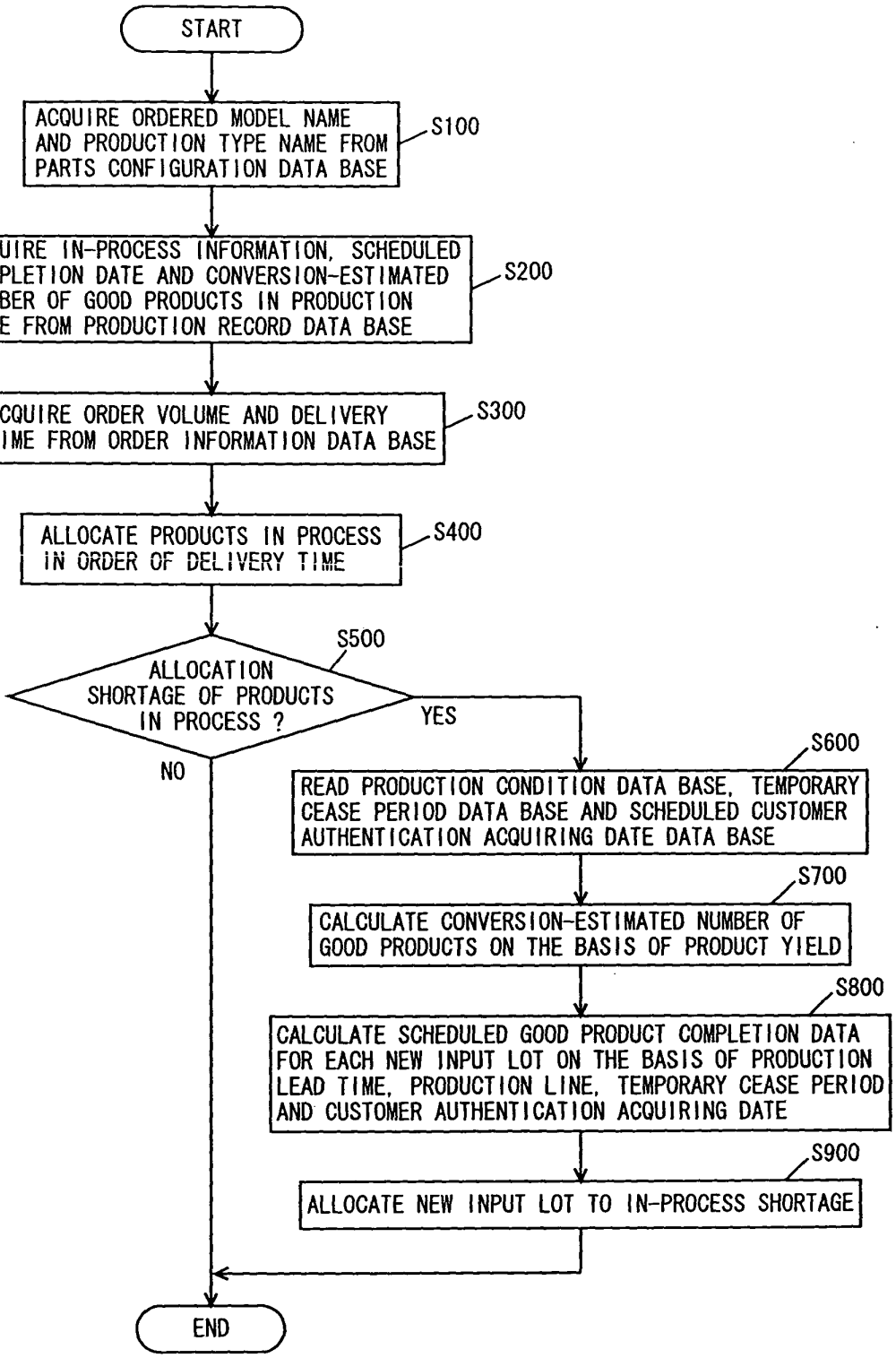

START
ACQUIRE ORDERED MODEL NAME AND PRODUCTION TYPE NAME FROM PARTS CONFIGURATION DATA BASE
S100
ACQUIRE IN-PROCESS INFORMATION, SCHEDULED COMPLETION DATE AND CONVERSION-ESTIMATED NUMBER OF GOOD PRODUCTS IN PRODUCTION LINE FROM PRODUCTION RECORD DATA BASE
S200
ACQUIRE ORDER VOLUME AND DELIVERY TIME FROM ORDER INFORMATION DATA BASE
S300
ALLOCATE PRODUCTS IN PROCESS IN ORDER OF DELIVERY TIME
S400
ALLOCATION SHORTAGE OF PRODUCTS IN PROCESS ?
S500
YES
NO
READ PRODUCTION CONDITION DATA BASE, TEMPORARY CEASE PERIOD DATA BASE AND SCHEDULED CUSTOMER AUTHENTICATION ACQUIRING DATE DATA BASE
S600
CALCULATE CONVERSION-ESTIMATED NUMBER OF GOOD PRODUCTS ON THE BASIS OF PRODUCT YIELD
S700
CALCULATE SCHEDULED GOOD PRODUCT COMPLETION DATA FOR EACH NEW INPUT LOT ON THE BASIS OF PRODUCTION LEAD TIME, PRODUCTION LINE, TEMPORARY CEASE PERIOD AND CUSTOMER AUTHENTICATION ACQUIRING DATE
S800
ALLOCATE NEW INPUT LOT TO IN-PROCESS SHORTAGE
S900
END

FIG. 9A

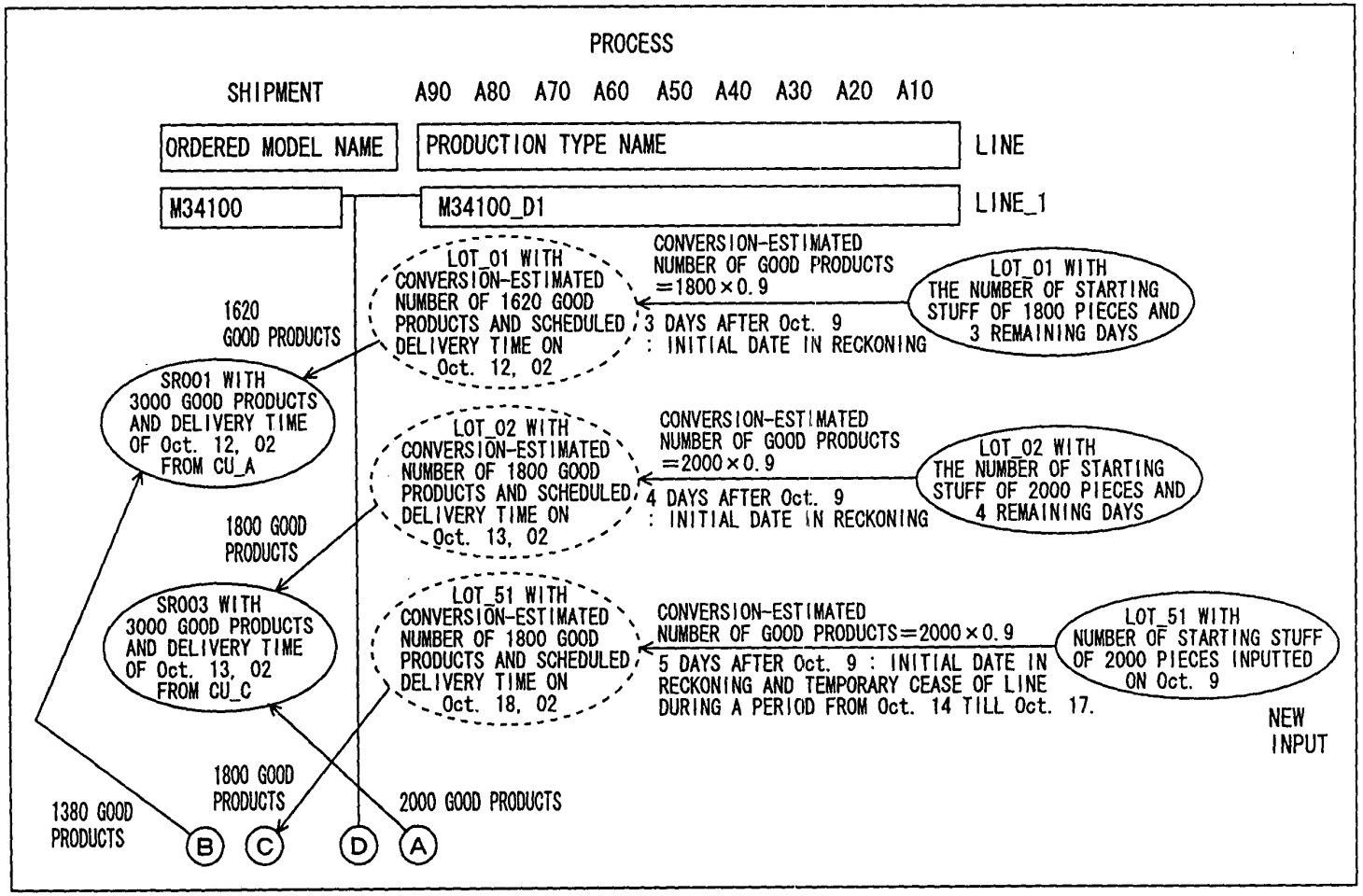
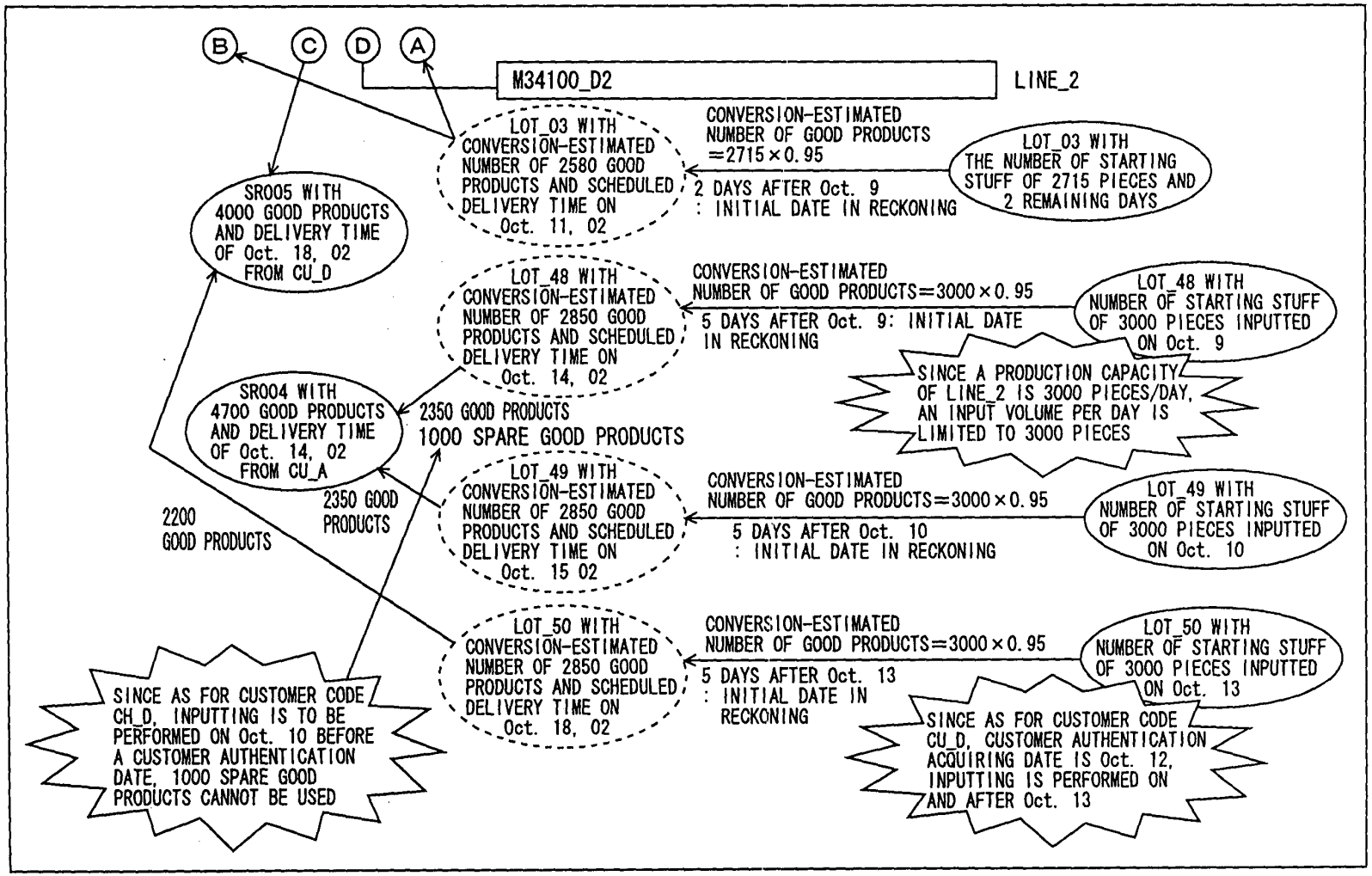

PROCESS
SHIPMENT
A90 A80 A70 A60 A50 A40 A30 A20 A10
ORDERED MODEL NAME
PRODUCTION TYPE NAME
LINE
M34100
M34100_D1
LINE_1
LOT_01 WITH CONVERSION-ESTIMATED NUMBER OF 1620 GOOD PRODUCTS AND SCHEDULED DELIVERY TIME ON Oct. 12, 02
CONVERSION-ESTIMATED NUMBER OF GOOD PRODUCTS =1800×0.9
3 DAYS AFTER Oct. 9 : INITIAL DATE IN RECKONING
LOT_01 WITH THE NUMBER OF STARTING STUFF OF 1800 PIECES AND 3 REMAINING DAYS
1620 GOOD PRODUCTS
SR001 WITH 3000 GOOD PRODUCTS AND DELIVERY TIME OF Oct. 12, 02 FROM CU_A
LOT_02 WITH CONVERSION-ESTIMATED NUMBER OF 1800 GOOD PRODUCTS AND SCHEDULED DELIVERY TIME ON Oct. 13, 02
CONVERSION-ESTIMATED NUMBER OF GOOD PRODUCTS =2000×0.9
4 DAYS AFTER Oct. 9 : INITIAL DATE IN RECKONING
LOT_02 WITH THE NUMBER OF STARTING STUFF OF 2000 PIECES AND 4 REMAINING DAYS
1800 GOOD PRODUCTS
SR003 WITH 3000 GOOD PRODUCTS AND DELIVERY TIME OF Oct. 13, 02 FROM CU_C
LOT_51 WITH CONVERSION-ESTIMATED NUMBER OF 1800 GOOD PRODUCTS AND SCHEDULED DELIVERY TIME ON Oct. 18, 02
CONVERSION-ESTIMATED NUMBER OF GOOD PRODUCTS=2000×0.9
5 DAYS AFTER Oct. 9 : INITIAL DATE IN RECKONING AND TEMPORARY CEASE OF LINE DURING A PERIOD FROM Oct. 14 TILL Oct. 17.
LOT_51 WITH NUMBER OF STARTING STUFF OF 2000 PIECES INPUTTED ON Oct. 9
NEW INPUT
1800 GOOD PRODUCTS
1380 GOOD PRODUCTS
2000 GOOD PRODUCTS
B
C
D
A

FIG. 9B


B
C
D
A
M34100_D2
LINE_2
LOT_03 WITH CONVERSION-ESTIMATED NUMBER OF 2580 GOOD PRODUCTS AND SCHEDULED DELIVERY TIME ON Oct. 11, 02
CONVERSION-ESTIMATED NUMBER OF GOOD PRODUCTS =2715×0.95
2 DAYS AFTER Oct. 9 : INITIAL DATE IN RECKONING
LOT_03 WITH THE NUMBER OF STARTING STUFF OF 2715 PIECES AND 2 REMAINING DAYS
SR005 WITH 4000 GOOD PRODUCTS AND DELIVERY TIME OF Oct. 18, 02 FROM CU_D
LOT_48 WITH CONVERSION-ESTIMATED NUMBER OF 2850 GOOD PRODUCTS AND SCHEDULED DELIVERY TIME ON Oct. 14, 02
CONVERSION-ESTIMATED NUMBER OF GOOD PRODUCTS=3000×0.95
5 DAYS AFTER Oct. 9: INITIAL DATE IN RECKONING
LOT_48 WITH NUMBER OF STARTING STUFF OF 3000 PIECES INPUTTED ON Oct. 9
SINCE A PRODUCTION CAPACITY OF LINE_2 IS 3000 PIECES/DAY, AN INPUT VOLUME PER DAY IS LIMITED TO 3000 PIECES
SR004 WITH 4700 GOOD PRODUCTS AND DELIVERY TIME OF Oct. 14, 02 FROM CU_A
2350 GOOD PRODUCTS
1000 SPARE GOOD PRODUCTS
2200 GOOD PRODUCTS
2350 GOOD PRODUCTS
LOT_49 WITH CONVERSION-ESTIMATED NUMBER OF 2850 GOOD PRODUCTS AND SCHEDULED DELIVERY TIME ON Oct. 15 02
CONVERSION-ESTIMATED NUMBER OF GOOD PRODUCTS=3000×0.95
5 DAYS AFTER Oct. 10 : INITIAL DATE IN RECKONING
LOT_49 WITH NUMBER OF STARTING STUFF OF 3000 PIECES INPUTTED ON Oct. 10
LOT_50 WITH CONVERSION-ESTIMATED NUMBER OF 2850 GOOD PRODUCTS AND SCHEDULED DELIVERY TIME ON Oct. 18, 02
CONVERSION-ESTIMATED NUMBER OF GOOD PRODUCTS=3000×0.95
5 DAYS AFTER Oct. 13 : INITIAL DATE IN RECKONING
LOT_50 WITH NUMBER OF STARTING STUFF OF 3000 PIECES INPUTTED ON Oct. 13
SINCE AS FOR CUSTOMER CODE CH_D, INPUTTING IS TO BE PERFORMED ON Oct. 10 BEFORE A CUSTOMER AUTHENTICATION DATE, 1000 SPARE GOOD PRODUCTS CANNOT BE USED
SINCE AS FOR CUSTOMER CODE CU_D, CUSTOMER AUTHENTICATION ACQUIRING DATE IS Oct. 12, INPUTTING IS PERFORMED ON AND AFTER Oct. 13